Letters From Our Readers

To: Editor, *The Angle Orthodontist*

Re: Response To: The effect of platelet-rich fibrin (PRF) on maxillary incisor retraction rate. Kuter Karakasli, Emire Aybuke Erdur. *Angle Orthod.* 2021;91:213-219.

Thank you for giving us the chance to respond to Dr.Tripathi and Dr.Ganesh regarding this paper.

Thank you for mentioning a very important detail. You are totally right, since growth pattern changes could affect the results of the study, vertical dimensions of the patient were determined to be normodivergent. It was not mentioned in the inclusion criteria, but this information was displayed in Table 1 of the paper.

No clinical studies evaluating the efficacy of PRF injection on incisor retraction were published previously. The purpose of this study was to investigate the efficiency of injectable PRF (i-PRF) on the tooth movement rate. Many techniques have been described in the literature to accelerate tooth movement based on the regional acceleratory phenomenon.[1–5] The procedures applied in these studies were in the direction of tooth movement. In the current study, the amount of i-PRF was standardized as 2 mL and was injected to the distopalatal side of the lateral incisors and palatal side of the central incisors (0.5 mL for each side) into the periodontal ligament space two times with an interval of two weeks.

In most of these studies, since PRP is not an injectable formulation, it was applied inside the socket as a plasma. In our study, the goal was not to accelerate the wound healing process, but to increase the rate of tooth movement by affecting bone turnover. Wang et al.[6] reported that i-PRF affected osteoblastic behavior remarkably by influencing migration, proliferation, and differentiation. This promotes cellular activity and accelerates bone turnover and healing. Cytokines play significant roles in reinforcing and activating osteoclast precursor cells. Increased release of these factors is accompanied by higher osteoclast activation and, therefore, a higher rate of tooth movement. In our previous study,[7] we evaluated the effect of i-PRF on stimulating the expression of inflammatory cytokines in GCF samples while investigating the efficiency of i-PRF in accelerating canine retraction. The inflammatory marker findings of the study demonstrated that the level of cytokines changed in both groups 1 week after the first application of i-PRF and 2 weeks after the second application of i-PRF. Analysis of the results demonstrated that i-PRF stimulated the expression of inflammatory cytokines, which indicated osteoclastic activity and an increased rate of tooth movement.

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